EDUCATION FOR LIFE WORK IN NON-PROFESSIONAL OCCUPATIONS

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Changes, both vocational and social, have laid new responsibilities upon the school and offered new opportunities for greater service in life preparation. We have become conscious of these changes and their significance, and the need is now as well recognized and appreciated for vocational education in the non-professional callings as in the professions.

The breaking down of the apprenticeship system, the development of specialization and piece work, the difficulty in securing more than a few relatively simple manipulative skills or operations in employment itself, the fact of constant change in industry and commercial life calling for flexibility and adaptability in workers—all of these facts and factors have been much discussed, and they are too well known to require more than passing mention as causes for the widespread interest in vocational education. Changes in social attitude have also come about which are largely the resultant of vocational changes and changes in economic relationships. The subordination of the many workers to the one employer, the frequent exploitation of workers by employers, the occasional injustices suffered by employers at the hands of organizations of workers, the development of large and powerful capitalistic corporations on the one hand and of labor combinations on the other, and the frequent injury of the long-suffering consumer or the innocent bystander have all contributed to develop a collectivistic attitude which expresses itself in new forms of social responsibility and social control. The public support and direction of vocational education has come to be regarded in several states as a social responsibility, and now the federal government has adopted a policy of national aid in its support and development.

The early entrance of boys and girls upon vocations and the consequent neglect of the larger demands of citizenship in their

training have had their place in awakening the public to its responsibility in requiring a more effective education for workers in the industrial, commercial, and agricultural vocations. Four large ends contribute to the well-being of the individual and equally to that of the society of which he is a part, namely, (1) the preservation of health, (2) the development of practical efficiency, (3) preparation for responsible and effective citizenship, and (4) training in the wise use of leisure. Neglect of any one of these elements means impaired vocational productivity in the long run. In the earlier movement for vocational education, the emphasis was very partial to the second of these elements alone. Limiting the training of the non-professional workers to the development of immediate practical efficiency, and failing to develop adaptability and these other more indirect elements are both wasteful and dangerous.

SOME CONTROLLING FACTORS IN NON-PROFESSIONAL VOCATIONAL EDUCATION

Between vocational education for the professions and for the non-professional occupations there exist a number of fundamental differences. Some of these have been wholly neglected in the haste with which occasional attempts at vocational education have been made in industrial and commercial fields. It is worth while to note these differences and the implications which follow from them:

(1) EARLY ENTRANCE TO NON-PROFESSIONAL VOCATIONS

Entrance upon professional callings assumes a maturity in years and a foundation in liberal education much greater than in the fields of industry, commercial life and agriculture entered by the greater number of workers. While few enter the professions under twenty years of age, and many not until four or five years later, the masses of workers in the productive and distributive fields enter in their teens, many in their very early teens. A full high school education, a college education, and often a later specialized professional course make up the preparation for professional workers. Few in the non-professional callings have a high school education and many not even a full elementary school course. This puts a burden upon the secondary vocational schools which does not have to be assumed by professional schools, that of including the elements of a liberal education—preparation for

citizenship and the use of leisure, as well as training for productive efficiency. Because of the general neglect by both elementary and secondary schools, there is also a great need for educating workers as consumers, giving information and training in the purchase and use of food, clothing, and other economic necessities.

(2) NECESSITY FOR SPECIALIZED MANUAL SKILLS

In most of the non-professional callings, there must be developed various specialized skills in manipulation. This requires the equipment and opportunity for much shop, office or field practice, practical work involving the use of materials and much repetition in operations and processes until accuracy and speed are developed approximating productive standards. This involves expense and problems in the disposal of products not included in training for professional callings.

(3) LITTLE CONTACT WITH PEOPLE—INDIVIDUALISTIC WORK

The professional callings require much contact with people—the work all deals with personal or human relationships. Many of the non-professional callings are relatively individualistic. The work is chiefly with materials and calls for individual, technical manipulations.

(4) FLUCTUATIONS IN CHARACTER AND LOCATION

There is relatively much greater fluctuation in the non-professional callings. This fluctuation is of two types, that of the character of the work itself, and that of the location and quantity of work. Relatively the professions are conservative and change but slowly. The professional worker usually becomes identified with a given location and community, building up permanent social contacts and relationships. Inventions, discoveries and new types of organization occasion almost constant change in the character of industrial and commercial work, and the shifting of centers of production and the numerous adaptations to meet changing needs give a mobility and a fluctuation not usual in the professions. This factor in the productive and distributive occupations imposes a need for the development of adaptability which did not exist in the days of apprenticeship and a more domestic type of industrial production and distribution.

(5) OPPORTUNITIES FOR CHILD LABOR AND EXPLOITATION OF WORKERS

The professional callings offer little opportunity for work by children, and all require ability and training of a relatively high order. In the organization and division of labor in modern industrial life, there are many kinds of remunerative work which require very little ability or training, and which may be accomplished as well by children in their teens as by adults. This fact puts the school and the larger well-being of society as represented by efficient citizenship into sharp competition with remunerative occupations for the plastic, formative years of adolescent youth. Only by social pressure for a more far-sighted economic and social policy can this call for child labor and this exploitation of child life be controlled.

(6) LITTLE TESTING OF APTITUDES BEFORE ENTRANCE TO VOCATIONS

In the professional callings, the long period of preliminary liberal education and the definite professional training serve as a partial testing and sifting process whereby the fitness of the individual for the work he proposes to undertake may be somewhat estimated in advance. Success in his preparatory work is some measure of probability of success in the occupation to be followed. Failure usually means elimination. There is thus a type of automatic vocational guidance, although it is often bungling and but partially effective. In the non-professional callings, however, entrance upon this or that kind of work is often wholly a matter of chance. When the need for work comes almost any job that is offered is taken. The chances for failure or success are about even. The process of trial and failure or success is begun. One failure after another may follow at the cost of inefficient work to the employer, poor service to the public, and waste of effort, discouragement and the habituated attitude of mediocre worth to the worker.

IMPLICATIONS FOR VOCATIONAL EDUCATION

From the foregoing characteristics of non-professional work, there evolve certain very definite implications for the direction and development of vocational education for these callings.

(1) THE PROBLEM IS ONE FOR THE SECONDARY SCHOOL

The problem is clearly one for the period of secondary education, covering the years from thirteen or fourteen to eighteen or

twenty. Vocational education to be of most general value must begin before the vocation is entered. By the census of 1910, over eighty-five per cent of all persons in the United States engaged in gainful occupations were occupied in vocations entered by a majority of the workers in their teens.

(2) VOCATIONAL ACTIVITIES SHOULD BE INTRODUCED EARLY

To meet this problem comprehensively, there must be included in the schools for pupils of twelve years and upward courses designed to give work of appreciable worth in relationship to vocational needs. Many pupils who could not otherwise be retained in school will remain if they are given some training which will make for direct increase in efficiency when they go to work.

(3) DIFFERENTIATED COURSES SHOULD BE OFFERED

There should be provision for the early partial differentiation of pupils on the basis of aptitudes, interests and probable length of stay in school. By the beginning of the seventh grade period, school work, if it at all adequately reflects the life activities outside of school, should have revealed with some degree of significance the dominant aptitudes and interests of pupils. These, taken into account with economic and other home conditions of pupils, should enable teachers and parents to aid the pupil in a selection of work for subsequent years which will be of both general educational value and of rather definite vocational worth. Differentiation should be only partial for several years, but selections from the beginning should be made on the basis of definite, clearly appreciated needs. While pupils having college entrance in view might well begin the study of a foreign language in the seventh grade, those expecting early to enter industry should elect an industrial subject instead, and those inclined toward commercial work should have opportunity to begin work preparatory to this field rather than take industrial studies or those leading primarily to college entrance. With each succeeding year, the number of elective courses in each field should be increased so that the pupil may approach the time of entrance upon his vocation with increasing emphasis upon the life career motive. The junior high school with its flexible courses of study is the response which the schools are formulating to meet this situation. The plan promises much for the period of early adolescence.

(4) THE LIBERAL ARTS SUBJECTS SHOULD BE MODERNIZED

To modernize education in general, there is need for a very marked reorganization of the usual academic subjects throughout the public school system to make them all contribute more directly to the solution of problems of present day life. History, civics, geography, English, mathematics, and science studies may all select those problems and aspects of their respective fields which throw light upon or which are practically usable in the occupations of people engaged in productive or distributive enterprise.

(5) THE LATER YEARS OF HIGH SCHOOL SHOULD BE VOCATIONAL

The latter years of the high school period, those coming to be known as the senior high school, representing the years of life between fourteen or fifteen and seventeen or eighteen, may well be organized as definitely vocational, or at least dominantly influenced in their organization by vocational motives. This organization, broadly considered, would include a liberal arts division, made up to meet the needs of those preparing for higher institutions and chiefly having in prospect entrance into professional callings; an industrial division, organized to give preparation as intensive as possible for industrial callings to be entered immediately upon leaving school; a commercial division to prepare for immediate entrance to callings in the commercial field; and an agricultural division for similar preparation for entrance upon agricultural work. In each of these divisions there may well be organizations of courses primarily to meet the needs of women desiring to enter wage-earning occupations. It is assumed that all girls will regard as fundamental a preparation for home making, and that, whatever other vocational motive may determine their selection of work, they will include home-making courses as an essential supplementary group of studies. It is also assumed that parallel with the vocational studies in each of these divisions there will be a well balanced selection of liberal arts subjects organized in terms of the civic and social needs of present day life. In each division, also, a selection of courses should be possible which would make a foundation for entrance into still more advanced study of the chosen field in colleges or technical institutions. While such a fully comprehensive plan is not possible to all communities, each community may select groups of studies for emphasis which meet its own

particular needs. By abandoning the ghosts of tradition, the secondary school may be made to adapt its offerings to any community, whatever these needs may be. Potentially the secondary school is a thoroughly democratic and cosmopolitan institution.

(6) CONTINUATION OR VOCATIONAL EXTENSION WORK IS NEEDED

The fact that great numbers of young people enter upon wage-earning before the completion of a secondary school course and an even greater number before finishing the elementary school requires that provision be made for continuation or part time education for those at work. For workers not yet physically mature, this should be day school study. For men and women of maturity, evening school work may be engaged in without the dangers to physical and moral health and growth to which adolescents are subjected by evening school attendance. Such supplementary education needs to be exceedingly flexible in its offerings. For many workers there are immediately practical vocational problems which may be met by supplementary school courses covering from four or five to eight or ten hours each week. Very often the most desirable organization of such work is on the basis of short units each of which meets an immediate and pressing demand of the worker and each of which would increase his daily efficiency and earning capacity. In a number of states legal provision has been made for the public support of continuation school pupils who are at work but who are excused from work several hours each week to attend the school. If the occupation entered is satisfactory and is to be permanent, the continuation school work should directly supplement it in order to make for direct and increased efficiency in it. If the work is but temporary and it is desired to prepare the student for some other vocation, school work should be provided which will make a later transfer into the chosen vocation relatively easy and progress rapid after entrance.

In continuation school work, either day or evening, there is a large demand for courses in the general education subjects. The elementary school work in English, mathematics, geography, history and science are not found adequate. While the cost of evening work in addition to day school work places a large burden of taxation upon the community, it is the penalty society should pay for its failure to adjust itself to modern conditions without child labor.

Great as is the cost, it is a good investment, both economically and socially. Little that is general in the detailed direction of supplementary day or evening school work may be said, as each community must study its own problems and needs and adjust and adapt its offerings to meet these community needs.

THE JUNIOR HIGH SCHOOL AND VOCATIONAL EDUCATION

The junior high school, consisting of the seventh, eighth and ninth grades, is rapidly responding to the needs of those pupils who enter wage-earning occupations in their early teens. It does this by offering in the seventh and following grades an election of work among several practical courses, usually industrial, commercial, and agricultural. The amount of elective work in any one of these fields, perhaps not more than two school periods each day in the seventh year, is increased in the eighth and still more in the ninth year, where it may receive half time. Parallel with these practical courses are closely related supplementary courses and courses continuing the general education of the earlier grades. In the industrial field, the work may be distributed over woodworking, metalworking, concrete construction, electrical wiring and installation, printing and some other forms of industrial activities, or it may concentrate intensively upon but one or two of these lines. A combination of these methods is most common, the pupil taking one or two short units in each field in first, or first and second years and as a result of this trying-out or testing of his aptitudes and interests selecting for intensive study during the remainder of his course the kind of work for which he is best adapted. If he leaves school at the end of the three years he may enter wage-earning as a helper with a foundation making him more immediately useful and also enabling him to advance more rapidly than without this training. With his practical shop work he has had some supplementary work in industrial mathematics, industrial drawing and design, and industrial science. He has come to see the worth and possibilities of school work in vocational preparation, and, if opportunities for continuation or vocational extension work are offered by the school, he will usually make every effort to attend and will continue to grow in efficiency and in earning capacity. In the commercial or agricultural fields the plan may operate as in the industrial.

Schools have developed in a number of states under such names as, "vocational schools," "intermediate industrial schools," "trade schools" and "shop schools," which offer courses of two or three years in length somewhat approximating the foregoing description. But these are usually limited to industrial vocations, and, in most cases, they are separated quite fully from the "regular" schools, and tend rather to neglect the continuation of the general education so much needed by industrial workers. The Vocational School for Boys and the Manhattan Trade School for Girls of New York City; the Saunders Trade School of Yonkers, New York; the Intermediate Industrial School of Cleveland, Ohio; the two years' course of the Dickinson High School of Jersey City, New Jersey; the Shop Schools of Rochester, New York; the day industrial schools of Massachusetts and the industrial continuation schools of Wisconsin are variants of this type. The Shop Schools of Rochester, New York, are of special interest because of the definite, written, three-party agreement entered upon. Here there is full coöperation between the school and the industries. The school, the employer and the pupil enter into an agreement, the employer to provide a certain amount of work and training each week, paying a specified wage for the work, the school to supplement this with certain related courses and general subjects, and the pupil to enter appropriately into both phases of the work.

From most of the schools of the foregoing general type, the pupil enters the vocation for which he has been preparing as helper or apprentice with some credit or advanced standing which reduces from one to two years the time for attaining the rating of journeyman.

THE SENIOR HIGH SCHOOL

In the period following the junior high school, or in the usual second, third and fourth years of high school, more definitely specialized vocational courses in industrial, commercial and agricultural fields may well be offered for those not expecting to enter more advanced institutions. Here fully half of the time, or even more than half, may be devoted to shop, office, or field practice and closely related technical or supplementary subjects. Where possible, the most satisfactory organization is the coöperative plan, examples of which are found at Fitchburg, Massachusetts, New York City and Cincinnati, Ohio. By this plan, the shop or office work is done

in commercial plants or offices. The usual method is to pair the students, one spending a given week at work, the other in school, alternating the week following, and so on, week about. The school is then relieved of the expensive equipment, material and teaching staff for practical work and devotes its time to the supplementary technical and general phases of the student's education. A co-ordinator, spending a part of his time in visiting and organizing the sequence of problems in shop or office, and a part in visiting and aiding in the organization of problems in the school, attempts to secure a unity between practical work and school work that makes each supplement and support the other. If this coöperative arrangement with employers is not possible, then the school must provide the shop, office, or field practice for the development of working skill and knowledge in the respective fields. A typical and excellent example of a four years' vocational course for industrial workers fully provided in all its aspects as a part of the school's work is that of the Dickinson High School of Jersey City, New Jersey. From three to four years of practical shop work are offered in each of the more important woodworking and metalworking industries. With these are extensive technical courses in drawing, mathematics and science, and some work in general, liberalizing subjects. Graduates of this school may quickly attain journeyman standing in the vocations for which they have prepared because of the intensive shop training and the extensive range of technical knowledge they have received from the several courses.

The variety in which any school system may reasonably offer specialized vocational courses is a matter of local demand. In all but the very largest industrial and commercial communities no specific course should be offered until a survey of the given occupation is made in the community and the annual requirement for new workers shown to be sufficiently large to justify a class whose graduates would be absorbed by the demand. If coöperative courses are possible, the school may support the work with smaller classes than if the practical work also must be provided by the school.

The manual training and technical high schools, though originally developed with the expectation that they would attract many students for vocational preparation, have become very largely preparatory schools for colleges of engineering and tech-

nology. Because of the excellent technical training in subjects related to shop work, those more enterprising students who do enter industry after graduation from these schools often rise rapidly to positions as foremen or to other directive positions requiring this technical knowledge. A considerable number of boys who have graduated from the technical high schools of Cleveland, Ohio, and Springfield, Massachusetts, have entered industry and have been promoted to positions of directive responsibility. The manual training or technical high school does not, however, seem to promise much for those whom we may call the privates in industry. They are rather for the non-commissioned officers of industrial organization. The vocational school for the great masses of workers must not demand so much of the more highly technical nor unrelated general material, but dwell more intensively upon the practical and closely related supplementary work. Yet, while laying due emphasis upon the vocational problems and processes, they need not crowd out other activities that have an indirect bearing upon practical efficiency and a very direct bearing upon civic and social efficiency as a whole.

PRIVATE INSTITUTIONS FOR VOCATIONAL EDUCATION

The beginnings of vocational education in this country for both industrial and commercial work have been conducted quite apart from the public schools. The mere mention of the business colleges is sufficient to recall the earlier history of vocational training for commercial work. By reference to the work of such institutions as Pratt, Wentworth, Drexel, Stout, Armour, Lewis, Hampton, and Tuskegee Institutes, the various mechanics' institutes, and Bradley and other polytechnic institutes, all offering courses preparatory to entrance or to more advanced work in industrial vocations, we see the beginnings and perhaps the most comprehensive development of vocational education for non-professional vocations. Their work, on the whole, has been better adapted to the needs of young men and women beyond the secondary school stage than for early adolescents. In attempting to develop secondary work in public schools by imitating these institutions we may have a reason for the narrowness and mediocre success of some secondary schools. The almost exclusively practical and technical character of the work of these institutions can not be brought

down to the needs of boys in their earlier teens without much adaptation. However, these institutions have served and are serving a very real need in their vocational preparation of mature students. They suggest the need, in many communities, for similar institutions in which work may be offered following that of the industrial courses in the senior high school. For those desiring preparation for entrance to the more highly skilled types of mechanical work we have very few institutions under public support. The "Middle Technical Schools" of Europe serve as excellent models for this development in America. In a considerable number of fields America must still go to Europe for highly skilled workmen. In almost any manufacturing city in this country with a population of over 100,000 not having a privately supported mechanics' institute, a school of this type would be an investment that would yield substantial dividends to the community.

PRESENT TENDENCIES AND OPPORTUNITIES IN VOCATIONAL EDUCATION

At present, the whole trend in American public education is to relate the work in the school more closely to the significant aspects of life outside of the school. The greater enrichment of the elementary school curriculum is to be attained by making its problems and interests a true reflection of the problems and activities of everyday life, vocational, civic, and social. In just the measure that school activities are made representative of vocational activities will school performance become an index of probable vocational performance and the school work itself a practical means of vocational guidance. With the possibility for work in the junior high school that appeals to the vocational aptitudes and interests of pupils, and work that is so closely related to vocational needs that its worth is appreciated by parents, the holding or retaining influence of the school will be markedly increased. With the courses giving more and more time each succeeding year to preparation for entrance upon work with advanced standing and increased earning capacity, no child will wish to withdraw, and no parent will permit withdrawal before the work is completed except for the most pressing economic necessity. By safeguarding all vocational courses with supplementary work providing adequate training for citizenship and for the profitable use of leisure, the increased individual efficiency

of the workers and the consequent increase of social efficiency, wealth, and solidarity will make the development of vocational education a public investment which will bring large economic and social returns. In vocational education, the American public school has a large opportunity and responsibility in the further development of efficient democracy. Until its offerings for the preparation of workers in non-professional vocations are as adequate as for those in the professions, it will fail in its avowed purpose to provide equality of opportunity.